BUTLER (F.W.P.)

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GANGRENE—FOLLOWING CONTINUED FEVER—DOUBLE AMPUTATION—RECOVERY.

Compliments—

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The rarity of this form of gangrene has suggested to me the propriety of presenting this paper. In consulting the literature of this disease I notice that this kind of gangrene is only casually mentioned by most authors. The varieties of gangrene classified and put down in the latest works, are as follows: Moist, dry, senile, white, symmetrical, diabetic, diptheritic, noma and hospital.

It would be useless to attempt to define each of these forms of this trouble, to this intelligent body of men. Authors differ in their definitions of gangrene. Liston, says, sphacelus is complete death of a part, and in gangrene the larger arterial and nerve trunks still perform their respective functions. They differ as to whether or not gangrene and spacelus are synonymous, but any such synonyms are generally conceded to be obsolete now. It is evident to my mind now, after what I have read on the subject, that the true cause of the gangrene in my case was due to an endoarteritis which created a coagula, or a thrombus that cut off the circulation, which induced gangrene. Pepper in his extensive and elaborate work, says it is due principally to acute arteritis following the low forms of fever. Wood mentions very briefly this also. Obstruction of the veins very seldom causes gangrene. This inflamatory condition of the arteries, Pepper says, cause a thrombus, and he noticed that a thrombus is composed of fibrin and blood corpuscles similar to a blood clot. The causes that produce a thrombus induce a rapid destruction of the white corpuscles.

Barié has called attention to the frequency with which acute inflammatory arteritis follows fevers, typhoid especially. He says the arteries mostly affected are the femoral, posterior tibial, and the dorsal artery of the foot. In my case, the posterior, tibial and the dorsal were involved, which created a foreign body that brought on gangrene. Barié has classified two kinds of arteritis, namely, acute, obliterating arteritis, and acute parietal arteritis. The former characterized by embryonal infiltration of all the adjoining tissues, a secondary thrombus forms, and the muscles and skin lose their symmetry, become stink, and of a reddish black hue, with temperature much lowered and accompanied by pain. This form, he says, almost invariably terminates in gangrene. The acute parietal arteritis does not have such serious consequences. My case, when I first saw it, presented precisely

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the same symptoms which Barié says follows acute obliterating arteritis. Therefore, I am led to conclude that the true cause of this case of gangrene was acute obliterating arteritis, following a case of continued fever, from which the patient was convalescing when I first saw him.

CASE.—On the morning of November 27th, 1888, I was called some miles into the country to see M. M. Æt. 28 Family history, as far as I could ascertain, was good, with probably two exceptions—his grandmother and an uncle, I learned, had died with a trouble very much like the one from which he was now suffering. On entering the cabin, I found my patient lying over in a dark corner; he was very much emaciated, weak and covered over with four or five heavy quilts. As soon as I entered the hut I recognized the characteristic gangrenous odor. I uncovered the affected limb, and soon found that my olfactory had told the truth. For I discovered a cold, darkened leg, insensible to the touch of my hands, or to the prick of a pin. The line of demarcation had first begun to be formed, and I should have amputated then, but was compelled to endeavor to revive the dying leg. The family told me he had been sick two or three weeks, and had been attended by a physician in the neighborhood, who had given up the case.

I was certain I had a case of gangrene, with no lesion or traumatism to cause it. I really did not know the true cause then, but told them it was gangrene, and I would endeavor to save it, but thought it was too late, I dressed the leg antiseptically and with warm applications, and put the patient on tonic pills of iron, quinine and strychnia, for then he was suffering no bowel or stomach trouble, but was intensely weak and reduced, also ordered small quantities of milk punch regularly and often. I did my utmost to save the limb but told them, after the second visit, that on my next visit the leg would have to come off, for now the line of demarcation had fully formed and the odor was terrific, and I saw that, under the existing circumstances, pyæmia would soon set in. So, on the 4th of December, 1888, accompanied by Drs. Hill and Tompkins, I repaired to the place to amputate. I forgot to mention, that when I first saw the man, I also found him suffering from an immense putrid black, nasty smelling bed-sore in the lower part of the back near the prominent portion of sacrum, this was protected as well as the circumstances would permit. I used as an anæsthetic half chloroform and half ether, and the patient took it well under Dr. Hill's guidance. I amputated about six inches below the thigh joint, as I was fearful of a recurrence of the gangrene, so did this to prevent, if I could, such an unfortunate state of affairs. I made part skin and part muscular flaps. The parts were brought together with wire, and a wet sublimated dressing (1-2000) and applied over the stump on top of the wet dressing carbolized gauze and borated cotton with bandages over all. The patient stood the operation well, notwithstanding his great weakness and depletion. I remained in the neighborhood that night, and he passed a tolerably good night. The whiskey and milk were increased, as was the quinine. The bed-sore mentioned above was

dusted over with iodoform and wheat flour and protected from the bed. This enormous bed-sore added to the magnitude and apparent hopelessness of this terrible case. The patient was delirious, wandering and feverish for four or five days, pulse weak, quick and thready. I then put him on tincture of digitalis combined with the whiskey. Everything went on as well as I could expect until the fifth day, when, owing to a rise in the temperature and an unpleasant odor of the stump, I dressed it. Much to my regret, I found the femur had projected, then the flaps and the parts were in a complete state of suppuration. Evidently the man in his delirium and restlessness rolled over on the stump, and the bone pushed through the skin. I now determined to apply a dry dressing of sublimated gauze and did so. In the meantime I did all I could to protect the bed-sore, but found a hard job, for two more bed-sores of a gangrenous character now appeared on each hip-bone, to which I also applied iodoform and protected them with pillows as best we could. These bed-sores gradually sloughed off and began to granulate. I gave him as a nourishment bovinine and milk, with soup and light diet. Fortunately for me and my patient, his stomach never failed him once, and he took everything apparently with relish. He was doing well, the bed-sores healing and the projecting bone gradually disappearing by healthy granulating tissue. After the febrile state had subsided to some extent, I prescribed Rx-Sulph. strych. grs. *j*. sol. ferrous mal ℥i.. M. S. 15 gtts. ter in die. The quinine grs. iii, was kept up continually.

I was just beginning to congratulate myself, as I now thought my patient was good to recover, but lo and behold, on the third week after the first amputation the other foot began to pain and get cold. I at once began warm applications, and tried every conceivable plan to save this leg, but all my efforts were futile. So soon as the line of separation began to form, I determined to operate, and, in fact, the poor unfortunate negro begged me to do so. I saw that the dorsal artery was affected and that gangrene had begun. On the 7th of February, with the assistance of Drs. Beall and Nicholson, I amputated just below the knee, obtaining a good muscular flap. I concluded to dress this stump differently from the other, so I brought the flaps together with horse hair and applied a dry dressing of sublimated gauze made of cheese cloth. The man stood the operation well, took the same kind of anesthetic as given before, easily. The bed-sores were healing, and the patient from this on gained strength daily. The stump healed by first intention, and there have been no signs of a return of gangrene in any part of the body. He is now doing well without his legs. I am led to conclude, from my experience with this case, though it is limited, and hardly enough to form opinions on, first, that, as soon as we notice no signs of return of life to the part affected, sometimes even before the line of separation, or demarcation forms, amputate high up above the, seat of trouble; second, that, judging from my meagre experience and that of my professional brethren in this town a dry dressing antiseptic gives the best results.